

XXIX. *On the Genus Mantispa, with Descriptions of various New Species.* By J. O. WESTWOOD, Esq. F.L.S. &c.

[Read 2nd February, 1852.]

MANTISPA is one of those remarkable genera which, belonging to one family of insects, put on the general appearance of the species of another, or occasionally of several other families, to which they possess but little, if any, real relationship. By Stoll, De Geer, Pallas and Fabricius, the species were arranged in the genus *Mantis*, belonging to the order *Orthoptera*; and Latreille, in his earlier works, adopted the same view, by uniting them with the family *Mantidæ*. By Linnæus, however, the species known to him was regarded as a *Raphidia*; and Latreille, who never appears to have dissected an insect of the genus (his characters in the "Genera Crustaceorum," &c. iii. p. 93, being entirely derived from the external parts of the insect), relying upon the elongated form of the prothorax, in his later works (commencing with the "Considérations Générales," p. 276) has introduced it into the *Neuroptera*, placing it (Fam. Nat. p. 436, &c.) in the family of which *Raphidia* is the type.

In the "Considérations" we find the only observations hitherto published relative to the larvæ of these curious insects, which appear to resemble those of the *Raphidiæ*. "Ces derniers insectes, ainsi que les *Mantispes*, se trouvent sur les chênes; leurs habitudes, et probablement leurs métamorphoses, sont identiques. M. Bourgeois, entomologiste très-zélé, et qui a trouvé fréquemment, aux environs de Lyons, la *Mantispe* villageoise, m'a donné une larve conforme à celles des *Raphidies*, mais beaucoup plus grande, et que je ne peux rapporter qu'à cette *Mantispe*." (Cons. Gén. p. 69.) How far Latreille's conjecture he correct has never yet been ascertained; the greater affinity of *Mantispa* with *Hemerobius* than with *Raphidia*, and the diversity in the condition of the pupa state of the two last named groups, lead me however to question its correctness. The late T. Say gave an account of the manner in which these insects capture their prey, consisting of living flies, with their fore legs, in the same manner as the *Mantidæ*. (Amer. Entomology, ii. pl. 25.)

As regards their relation with the *Mantidæ*, we find the wings of *Mantispa* constructed on the Neuropterous type; the maxillæ are also destitute of a dentated inner lobe, and the lower lip is entire instead of being bi- or 4-partite; whilst as regards the structure of *Raphidia*, we find the abdomen of the females of *Mantispa* destitute of the long exserted ovipositor, and the tarsi with the third

and fourth joints of equal shape and size, whereas in *Raphidia* the third joint is deeply bilobed, concealing the fourth minute joint in the incision. The parts of the mouth are also less like those of *Raphidia* than they are of those of *Hemerobius*. Hence in my Introduction, I separated *Mantispa* from the *Raphidiidæ*, and formed it into a distinct family, *Mantispidæ*. I am now also enabled, by the observations of Messrs. Fortnum and Wilson on Australian species of the genus, to corroborate the propriety of this separation by the knowledge of the mode in which the eggs are deposited by the female *Mantispæ*, which is exactly in the same manner as in the *Hemerobii*, namely, by attaching each egg at the extremity of a long and very delicate footstalk. How far this circumstance will render necessary the junction of *Mantispa* with *Hemerobius*, and the suppression of my family *Mantispidæ*, is a subject which a knowledge of the real larva and of the pupa state of the *Mantispæ* will alone enable us to determine. In the mean time, it appears to me far more advisable to retain the family as proposed in my Introduction, and which has been done by M. Rambur, in his volume on *Neuroptera* in the *Suites à Buffon* (Neur. p. 431).

Like *Gryllotalpa* and several other equally anomalous genera, *Mantispa* is found in every quarter of the globe, including New Holland. The latter country is denied to the genus by Messrs. Swainson and Shuckard, in their volume on *Insects* in Lardner's *Cabinet Cyclopædia*, p. 344; but it will be seen by the present paper that a number of species have now been received from different parts of Australasia.

Dr. Erichson, in his *Monograph* in the first volume of Germar's "*Zeitschrift für die Entomologie*," published descriptions of twenty-four species, fourteen of which are from the New World, six from Africa, two from Europe, one from Asia, and one of doubtful locality. As Dr. Erichson's Latin characters are very short, it will be serviceable to give them in this paper, in order to concentrate our knowledge of the genus up to the present time.

1. *M. semihyalina*\*: obscure cærulea, antennis pedibusque anticis basi testaceis. Long. 8—10 lin. *Brazil and Surinam*.
2. *M. brunnea* (Say, *Am. Ent. ii. pl. 25*): brunnea, alis antice

\* In consequence of the confusion in the nomenclature of the larger insects of the genus, the name and synonymy of this species will stand as follows:—

*Mantispa semihyalina*.

*Mantispa semihyalina*, Serville and St. Fargeau, *Enc. Méth.* x. p. 270; Rambur, *H. Nat. Ins. Neur.* p. 434, pl. 10, fig. 5.

*Mantispa chalybea*, Erichson in Germar's *Zeitschr. f. d. Ent.* i. 160.

*Mantispa grandis*, Burmeister, *Hand. d. Ent.* ii. 967 (nec *M. grandis*, Guérin, nec *M. grandis*, Erichs.). *Brazil*.

- concoloribus, postice præter basin hyalinis. Long. 9 lin. *North America*.
3. *M. varia*: castanea, nigro flavoque variegata, alis antice fulvis, margine postico fulvescente. Long. 6—7 lin. Var. corpore pedibusque unicoloribus, brunneo-rufis. *Mexico*.
4. *M. ambusta*: nigra, abdominis segmentis margine tibiisque flavis, alis hyalinis margine anteriore apiceque brunneis. Long. 7 lin. *Monte Video*.
5. *M. irrorata*: fusco-grisea, capitis thoracisque dorso flavescentibus, alis fusco-irroratis. Long. 9 lin. *Brazil*.
6. *M. decorata*: flava, fusco-variegata, alis hyalinis brunneo-maculatis. Erich. tab. 11, fig. 5. Long. 5—10 lin. *Brazil*.
7. *M. prolixa*: flavo brunneoque varia, alis stigmatibus maculaque apicali brunneis. Long.  $7\frac{1}{2}$  lin. *South Brazil*.
8. *M. Erichsonii*\*: brunnea, prothorace cinereo, alis hyalinis, costa maculaque apicali brunneis. Long. 11 lin. *South Africa*.
9. *M. costalis*: fusca, prothorace abdomineque luteis, alis hyalinis, costa lutea. Long. 8 lin. *Brazil*.
10. *M. pusilla* (Pallas, Latr., *brevicornis*, De Geer): fusca, flavo-variegata, prothorace tenuiter flavo-lineato, alis flavicanti-hyalinis, costa fusca. Long. 4—6 lin. *Cape of Good Hope*.
11. *Styriaca* (Poda, *R. Mantispa*, Scop. Linn. *M. pagana*, Fabr. Panz. Latr. *M. pusilla*, Schrank nec Pallas): flava, brunneo-varia, antennis ferrugineis, alis hyalinis, costa flava, stigmatibus brunneo. Long. 4—7 lin. *South Europe*.
12. *M. perla*† (Pallas, *M. Christiana*, Charp.): flava, brunneo-variegata, antennis nigris, alis flavicanti-hyalinis, costa testacea. Long. 6 lin. *South-Eastern Europe*.
13. *M. flaveola*: flava, brunneo-varia, alis hyalinis, costa stigmatibus flavis. Long. 5 lin. *Para*.
14. *M. dorsalis*: atra, prothorace toto corporisque dorso flavis, alis hyalinis, costa fusca. Long. 6 lin. *Caffraria*.
15. *M. fuscipennis*: fusca, pectore pedibusque testaceis, alis fuscis nitidis. Long. 5 lin. *Caffraria*.

\* In consequence of the confusion in the nomenclature of the larger insects of the genus, the name and synonymy of this species will stand as follows:—

*Mantispa Erichsonii*.

*Mantispa Erichsonii*, Guérin, Iconogr. R. An. Ins. p. 391.

*Mantispa grandis*, Erichson in Germar's Zeitsch. f. d. Ent. i. p. 164 (nec *M. grandis*, Guérin, nec *grandis*, Burm.). Southern Africa (Port Natal).

† Syn. *Mantispa Victorii*, Guérin-Ménéville, Iconogr. R. An. Ins. p. 391.

16. *M. tenella*: flava, abdomine fusco-variegato, prothorace æquali subtiliter granulato, alis hyalinis, costa pallida, stigmate brunneo. Long  $4\frac{1}{2}$ —5 lin. *Cape of Good Hope*.
17. *M. nana*: pallida, abdomine fusco-variegato, prothorace æquali subtiliter granulato, alis hyalinis, stigmate subfusco. Long. 4 lin. *Dongola*.
18. *M. gracilis*: fusca, capite, prothorace, pedibusque flavescens, prothorace æquali lævi, alis hyalinis, costa flava, stigmate brunneo. Long. 5 lin. *Brazil*.
19. *M. viridula*: pallide viridis, alis albo-hyalinis, costa stigmatique corpori concoloribus. Long.  $4\frac{1}{2}$  lin. *Brazil*.
20. *M. Notha*: picea, pilosa, prothorace brevi, abdomine supra lobato, tibiis posticis compressis, alis inæqualibus, fusco-maculatis. Tab. 2, f. 6. Long.  $3\frac{1}{2}$  lin. *Brazil*.
21. *M. interrupta* (Say, Amer. Ent. ii. pl. 25): pallida, abdomine linea dorsali incisuris nigris, alis hyalinis, costa ferruginea ante apicem interrupta. Long.  $6\frac{1}{2}$  lin. *North America*.
22. *M. minuta* (Fabr.\* Syst. Ent. 278, 21): *M.* capite thoraceque cylindrico flavescens; elytris alisque hyalinis, costa flavescens, s. virescens, abdomine virescenti dorso flavescens, pedibus virescentibus. Hab. —? In Mus. Banks.
23. *M. flavo-maculata* (Latr. *Mantis Liliputiana*, Oliv. Encycl.): flava, capite pedibusque posterioribus viridibus, prothorace lateribus fusco, abdomine pedibusque anticis ferrugineis, alis virescenti-hyalinis. *Surinam*.
24. *M. rufescens* (Latr. Stoll. pl. 4, fig. 15, *M. Nabota*, Oliv. Encycl.): brunnea, antennis brunneis filiformibus, alis flavescens, stigmate brunneo. *Coromandel*.

The following additional species have been described since the publication of Erichson's Monograph:—

25. *M. Guerinii*:† atro-fusca, femoribus anterioribus latis, trans-

\* The type specimen is still preserved in the Banksian Cabinet. The subsequent description in the Ent. Syst. ii. 24, 50—'Elytra—puncto medio parvo albo; alæ rufescentes, apice hyalinæ margineque interiori nigricantes'—seems to have been added from some small *Mantidean*.

† In consequence of the confusion in the nomenclature of the larger insects of the genus, the name and synonymy of this species will stand as follows:—

2. *Mantispa Guerinii*, Westw.

*Mantispa grandis*, Guérin in Duperrey's Voy. Coquille; Atlas, Ins. pl. x. fig. 4, texte 11, part 2, p. 196. (Nec *M. grandis*, Erichson; nec *M. grandis*, Burm.)

- verse rugosis, spinis tiliarum et tarsorum castaneis, antennis obscurioribus; alis angustatis, perlucidis, antice rutilis, apice obscurioribus. Long. 20 mill. Enverg. 49 mill. *Amboyna*.
26. *M. auriventris* (Guérin, Mag. Zool. 1838, Ins. pl. 202): rufo-castanea, fronte luteo, abdomine flavo, fasciis quatuor anoque brunneis; alis hyalinis, anterioribus et margine inferioribus luteis, anticis macula exigua apicali obscura. Long. 18 mill. Enverg. 42 mill. *Egypt*.
27. *M. nodosa* (Westwood, Cab. Orient. Ent. p. 70, pl. 34, fig. 7): nigra, capite, antennis prothorace et pedibus anticis ferrugineis; abdominis dorso in medio obscure fulvo; alis subhyalinis, dimidio costali fulvo; basi fusco strigae obliqua ante medium fusco, in posticis fere oblitteratis; prothorace brevi nodoso, antennis 48-articulatis.\* Exp. alar. antic. fere 24 lin. *Assam*.
28. *M. Cora* (Newman, Ent. Mag. 5, 401): fusca, antennarum basi, facie, prothoracis lateribus (lineâ obliquâ interruptâ) mesothoracis scutello, tuberculis ad alarum basin, metathoracis scutello abdominisque incisuris flavis, pedibus variis. Long.  $\frac{4}{10}$  unc. Exp. al.  $\frac{8.5}{10}$  unc. *Malabar*.
29. *M. virescens* (Rambur, H. n. Ins. Neur. p. 433): entièrement d'un jaune verdâtre pâle. Antennes un peu plus longues que chez la *pagana*, roussâtres, obscures vers l'extrémité; prothorax un peu moins grêle, tibias antérieures plus courtes, plus larges, non obscurcis; ailes transparentes, un peu blanchâtres; les nervules et le réseau ciliés d'un jaune verdâtre pâle; pterostigma de la même couleur, très allongé, un peu velu sur sa surface, rangée longitudinale médiane d'aréoles ayant leurs nervures latérales très sinuées. De la taille des petits individus de la *pagana*. *Patrie inconnu*. [North America? An *M. viridula*, No. 19? an *M. viridis*, Newm. MS. in Mus. Brit.? Americæ borealis incola.]
30. *M. gracilis*† (Rambur, H. n. Ins. Neur. p. 433): d'un roussâtre un peu obscur; tête ayant les yeux plus gros que ceux de la *pagana*, beaucoup plus rapprochés antérieurement,

\* Antennarum articuli hujus speciei breve transversus, articulis tertio quartoque fere æqualibus; alæ anticæ cellulis 12 discoidalibus, cellula singula venulas duas rectas, haud furcatas, ad marginem posticum emittenti; tarsorum ungues lati, apice 4-denticulati; prothorax in lobos tres divisus.

† Syn. ? *Mantispa iridipennis* (Guérin, Icon. R. An. Ins. p. 392): entièrement jaune; extrémité des antennes brunes; yeux d'un gris métallique; pattes toutes jaunes; ailes transparentes à nervures et stigmate jaunes, offrant des reflets irisés très-vifs et très-brillants. Long. 11; env. 21 mill. *Colombia*.

plus excavée derrière les antennes, avec le milieu plus saillant, une ligne noire sur la face; antennes noirâtres, plus pâles à la base; prothorax pas plus long, plus grêle, plus bossue, moins dilaté antérieurement où la petite saillie supérieure est plus sensible, les autres pièces du thorax obscures en dessus; abdomen d'un brun cendré, un peu nuancé de jaune; pattes blanchâtres; tibias antérieures un peu roussâtres, plus courts, finement et irrégulièrement striés antérieurement, avec une marque obscure à leur face interne; ailes transparentes, nervures et réseau jaunâtres, ce dernier un peu varié de brun; pterostigma presque comme chez la *pagana*, un peu plus étroit. De la taille de *pagana*. *Columbia*.

31. *M. apicalis* (Loew in Germar's Zeitschr. iv. 433): brunnea; hypostomate, abdominis basi supra, tribusque cingulis pone medium utrinque flavis; alis subæqualibus, anticis dilute flavo-brunneis, extremo apice fuscis, posticis limpidis, ad marginem exteriorem dilute flavo-brunneis. Long. lin. 7. *Rhodus insula*.

32. *M. vittata* (Guérin-Ménéville, Voy. Coquille, Insectes, texte, p. 196): fusca, capite supra carinato, antennis pallidis, apice nigricantibus; abdomine flavo, vittis lateralibus latis duabus aliaque media angusta supra et infra brunneis; pedibus flavis, femoribus anticis apice intus nigris, prima spina flava, apice nigra; alis hyalinis, stigmatibus fulvis. Long. 10 mill. Enverg. 26 mill. *Port Jackson*. Tab. nostr. 17, fig. 1.

Being enabled to add several new Australian species, it will be serviceable to describe this and *M. Australasiæ*, Guérin, in greater detail.

The general colour is dark brown-orange, varied with yellow. The head has a deep impression on each side, above the insertion of the antennæ, leaving an elevated central carina on the forehead; the lower part of the face, below the antennæ, is pale yellow, which colour also runs upwards along the inner margin of the eyes; there is also a very slender brown line down the middle of the face. The antennæ are slender, about twice the length of the head, 26-jointed, brown, about one-third towards the base reddish, the two basal joints yellow beneath; the basal joint is large and subglobose, the second smaller, the third larger than the second or fourth; the fourth and following submoniliform, each nearly as long as broad, very slightly setose; terminal joint



ovate, rather longer but not thicker than the preceding. The prothorax is rather more than three times the length of the head, very slender, widened in front, the dilated part separated from the narrow part by two lateral tubercles, finely transversely striated on the upper surface, and finely granulose, each granule emitting a very short black hair: the upper side is orange-brown, with a narrow dorsal line of yellow dilated in front, the dilated pale part bearing a very narrow V like brown mark, the anterior part of which extends to the fore margin; the under side is pale yellow. The meso- and metathorax are yellow beneath, brown-orange above, with two dorsal yellow longitudinal lines converging behind upon the metascutellum. The abdomen is brown-orange coloured above, with a row of brown spots down the middle of the back (one in each segment), and a broad lateral band of dark brown; the under side yellow, with a longitudinal median dark line. The coxæ of the fore legs are yellow, with a streak of orange-brown on the outside; the femora are orange-yellow outside, the outer half of the inside marked with a large dark brown spot. The tibiæ are yellowish orange, rather darker in the middle. The four hind legs are pale yellow; the tarsi have the terminal joint dilated, the ungues being simple. The wings are scarcely tinged with yellowish; the veins are uniformly brown, except the costal, subcostal and radial, which are pale brownish yellow; the stigma is very long and orange red. There are only seven longitudinal oblique discoidal cells dependent upon the sector radii tertius of the fore wings and upon the sector radii secundus of the hind wings, the veins which separate these cells from each other being very much curved.

Inhabits Van Diemen's Land, Port Jackson, Adelaide.

In Mus. Soc. Ent. London, Hope (D. Fortnum), Saunders and Westwood.

This species varies from three to four lines in length, and from six to ten lines in expanse. The smaller specimens have fewer (one in my Collection has only five) oblique discoidal cells, in the fore wings dependent upon the sector radii tertius. The dark spot on the fore femora is also occasionally enlarged.

33. *M. Australasiæ* (Guérin-Ménéville, Icon. R. An. Ins. p. 392). D'un brun, tirant un peu sur le fauve, avec le dessous de la tête et du thorax presque fauves. Devant de la tête et bord des yeux jaunes; une petite carène longitudinale au milieu du vertex. Antennes brunes, avec le premier article plus gros, globuleux et jaune en avant seulement. Ailes trans-

parentes, très faiblement teintées de jaunâtre, à nervures et stygmate d'un brun rougeâtre assez vif. Abdomen noirâtre en dessus, avec une bande étroite jaune de chaque côté, jaune en dessous avec une bande médiane brune. Pattes d'un jaune fauve. Long. 17 mill. ; enverg. 34 mill. *New Holland*. Tab. nostr. 17, fig. 2.

The head is dark chesnut on the crown, with two rather deep impressions behind the antennæ, leaving a slender central carina ; the face below the antennæ is yellow, with a short raised dark line in the centre, close below the insertion of the antennæ ; the labrum is chesnut in the middle, and the mandibles dark at the tip ; the eyes are narrowly margined on the inside with yellow. The antennæ are scarcely more than twice the length of the head, thick, becoming gradually, but slightly, more slender towards the tip ; they are 36-jointed, chesnut coloured, darker towards the tip, the first joint beneath yellow, large and globose ; second joint much smaller ; third, rather longer and slenderer ; fourth, and following, short and transverse ; last joint small, oval, and apparently divided into two joints. The prothorax is but little more than twice the length of the head, dilated in front, transversely rugose, and very granulose, with a large tubercle on each side, about one-third of the length from the head ; it is of a greyish chesnut colour above, much paler beneath : the meso- and metathorax are chesnut coloured above, paler at the sides and beneath. The abdomen is dark chesnut above, with a pale and very narrow, followed by a broader dark brown lateral stripe ; beneath dirty buff, sometimes with a dark central stripe. The fore legs are entirely of an orange yellow, except that the inner face of the femora is more chesnut coloured. The hind legs are also orange yellow, with simple ungues. The wings are slightly stained yellow, the chief veins reddish yellow, the rest brown, the stigma long and bright red, the general number of oblique longitudinal cells, dependent upon the sector radii tertius of the fore wings, and sector radii secundus of the hind wings, appears to be eleven ; the veins separating the cells being less curved than in the preceding species.

Inhabits Van Diemen's Land and Adelaide.

Mus. Hope (D. Fortnum), Saunders and Westwood (D. Wilson). The species varies considerably in size.

The following species are now, for the first time, described.

34. *M. strigipes*, Westw. Castanea, facie flava, linea media nigra, vertice flavo vario, prothorace supra punctis nonnullis lineaque tenui media flavis ; femoribus anticis extus linea media



nigra; antennis brevibus, 25-articulatis; alis cellulis obliquis discoidalibus 7. Tab. nostr. 17, fig. 3.

Long. corp. lin.  $5\frac{1}{2}$ ; expans. alar. lin.  $12\frac{1}{2}$ .

Habitat Adelaidam Australasiæ. In Mus. Saunders.

Head chesnut, above glossy; inner margin of eyes, a narrow transverse line on the crown, and a small central spot just above the insertion of the antennæ yellow, the front with two slight impressions above the antennæ, leaving an ill-defined central carina; face yellow, with a black central line; antennæ short, scarcely more than twice the length of the head, rather robust; 25-jointed, the basal joint moderately thick, 2nd small, 3rd rather longer than the 4th, which, with the following, is transverse; terminal joints slightly attenuated. Prothorax about two and a half times the length of the head, considerably dilated in front, but not so broad as the head, rather glossy, the middle portion strongly striated transversely. Two small dots near the front margin, a third in the central line rather behind the former, and the two small tubercles (separating the dilated front part from the cylindrical middle part), yellow, and arranged thus  $\cdot \cdot \cdot$ ; there is also a slender line down the middle of the cylindrical part, the sides of which are also yellow, with a slender dark line running along the middle of the yellow stripe. The meso- and metathorax are chesnut above, the former with the anterior margin and the sides slightly varied with yellow, beneath and sides dark brown, varied with yellow. Abdomen chesnut, with the sides yellow; beneath chesnut, with the base of the middle segments broadly yellow; fore coxæ yellowish brown behind, pale luteous in front, with a slender black line running their whole length; femora within and above dark chesnut, outside luteous yellow, with a dark brown line running above the teeth, tibia and tarsus dirty yellow, with the fore edge dark; middle coxæ with a yellow patch in front and another at the sides; hind coxæ entirely dark brown; four hind legs dark luteous yellow; femora with a dark longitudinal stripe beneath; wings slightly stained yellow, principal longitudinal veins yellowish brown; stigma long and bright red; longitudinal oblique veins dependent on the 3rd sector radii of the fore wings, and on the second of the hind wings, seven in number.

35. *M. scutellaris*, Westw. Luteo-flava, capite magis castaneo, meso-thorace supra lineis duabus nigris convergentibus, scutellis magis elevatis, abdominis segmentis fascia apicali nigra in medio interrupta, antennis brevibus brunneis, 32-articulatis. Tab. nostr. 17, fig. 4.

Long. corp. lin. 7; expans. alar. lin. 15.

Habitat in Nova Hollandia. Mus. W. W. Saunders.

Head entirely chesnut, smooth, with a slight impression on each side behind the antennæ, which are short, about twice the length of the head, 32-jointed, rather slender; basal joint large, oval, 2nd small, third longer, but rather slenderer than the 4th, which is transverse and short, as are the following joints, except near the tip, where they become slightly more slender, the terminal joint acute at the tip; prothorax about  $2\frac{1}{2}$  times the length of the head, slender, dilated in front, glabrous, the cylindrical part with transverse elevated lines, and with two tubercles at the anterior part: glabrous, not granulose, entirely dirty-luteous orange, with a slender dark line at each side; mesothorax orange yellow, with a short oblique black line, extending from the anterior angles; scutellum very convex and prominent, yellow; metathorax coloured like the mesothorax, but with the black marks less conspicuous, beneath and sides of the meso- and metathorax yellow, with black lines; abdomen yellow, with a black ring at the extremity of each segment, interrupted in the middle; segments beneath less strongly marked with black; fore legs orange-chesnut; femora with a black dash above the row of teeth; four hind legs entirely orange yellow; ungues of the tarsi with several long teeth on the under-side; wings coloured as in the last species; with eight longitudinal oblique discoidal cells, dependent upon the 3rd sector of the radius of the fore wings, and upon the 2nd sector of the radius of the hind wings.

36. *M. delicatula*, Westw. Picea, capite flavo vario, abdominis lateribus flavo-punctatis, antennis longis, gracilibus, 44-articulatis; pedibus anticis elongatis, gracilibus, piceis, luteo-striatis; alis elongatis, stigmatibus griseo, fusco-tincto, cellulis 10 sectoris 3tiii radialis anticarum. Tab. nostr. 17, fig. 5.

Long. corp. lin. 4—7; expans. alar. lin. 10—15.

Habitat apud Adelaidam. D. Fortnum. In Mus. Hope.

The head is broad; the crown quite convex, with only a very slight impression on each side behind the antennæ; the eyes with a slender yellow margin on the inner edge; the face below the antennæ is luteous yellow, with a dark lateral irregular slender line extending from the lateral angles of the clypeus to the vertex. Below the antennæ are three small triangular pitchy-coloured spots placed in a triangle; the clypeus and labrum are also dark in the centre; the mandibles are dark at the tips; a very slender short yellow line extends upwards from between the antennæ, and there are two yellow spots on the crown between the middle of

the eyes. Antennæ pitchy black, about three times the length of the head, very slender and filiform, 44-jointed; first joint moderate sized, oval, yellow beneath; second much smaller, rounded; third still more slender, scarcely longer than the second, but rather longer than the fourth, which, as well as the following joints, is small and cup-shaped; terminal joints rather more attenuated. The prothorax pitchy, opaque, granulose and setose, with an obscure paler longitudinal line down the back. It is about  $2\frac{1}{2}$  times longer than the head. Mesothorax pitchy, with the anterior angles and two oblique spots on the disc obscure orange-coloured; front of the metathorax chesnut-coloured. Abdomen black, each segment with two small bright yellow spots placed longitudinally on each side, as well as a slender longitudinal yellow streak; beneath black, with a broad irregular pale stripe down the middle. Fore legs slender and elongated, the femur not thicker than the coxa; front of coxa pale luteous, behind pitchy; femur both outside and inside pitchy, with the upper edge and half of the lower edge pale luteous; spines pitchy, with the base pale; tibiæ pitchy, with the upper edge dirty luteous; obtuse at the tip; tarsi 5-jointed, terminated by two distinct slender curved acute ungues and a moderate sized pulvillus; four hind legs dirty luteous, with pitchy setæ; middle pair very short; femora pitchy outside, tibiæ with a dusky ring, about one-third of the length from the base; terminal joint of the tarsi pitchy; ungues strong, acute, much bent, furnished with a single very minute tooth on the outer edge, at some distance from the tip. Wings almost colourless; principal veins pale brown; stigma very pale greyish luteous; apical half stained with brown. All the wings with ten oblique discoidal cells dependent upon the ordinary radial sectors, slightly curved towards the costa of the wings; fore wings with a dark spot on the hinder margin, close to the base.

Varies in having the coloured markings less decided, and the general appearance more uniform; and there are specimens of this kind in the British Museum Collection, which have the cells of the wings rather more numerous.

37. *Mantispa discolor*, Westw. Fulvo-lutescens, prothorace opaco granuloso et setoso, meso- et meta-noti lateribus fuscis, femoribus anticis intus macula elongata fusca, spinis nigris basi albidis, alis elongatis, tarsis anticis biunguiculatis; alis elongatis, stigmatibus fusco, cellulis obliquis 13. Tab. 17, fig. 6.

Long. corp. lin.  $10\frac{1}{2}$ ; expans. alar. lin. 23.

Habitat in Australasia. In Mus. Britann.

Head luteous, opaque; crown very convex; two small brown dots behind the antennæ; labrum with a pitchy spot in the centre; mandibles black at the tips; two basal joints of the antennæ luteous beneath, brown above; prothorax luteous, opaque, granulose and setose, scarcely more than twice the length of the head; two tubercles before the middle scarcely distinct, hinder portion with strong transverse raised lines; meso- and metanotum with a large dark patch on the sides of each, leaving the centre brighter coloured. Abdomen luteous above, each segment with a pitchy spot in the middle, and with a narrow brown line on each side; under side of the abdomen with a whitish longitudinal stripe down the middle, and a broad black stripe along each side. Fore legs long and slender; outside dirty brownish luteous, within the femora marked with a large black patch extending above the spines, which are also black, but white at the base; the first and largest spine at about one-fourth of the length from the base, and three shorter spines half way between the former and the tip, and with a number of minute spines, all white at the base, with the tips black; fore tarsi terminated by two distinct curved ungues and a moderate sized pulvillus. Four hind legs dirty luteous; femora of the two hind legs blackish; tarsi of the four hind legs dusky at tip, and terminated by bifid ungues; wings slightly stained dirty yellow; principal veins dirty luteous; stigma rather long and chesnut brown. In the fore wings the oblique veinlets are pale, but the points of their juncture with the radial sector are black.

38. *M. biseriata*, West. Lutea, verticis linea tenuissima media fusca, lateribus prothoracis brunneis; antennis gracillimis, 40-articulatis, alarum venis albidis nigro-punctatis, cellulis discoidalibus in medio vena transversa in duplici serie divisis.

Long. corp. lin. 8; expans. alar. antic. lin. 19. Tab. 17, fig. 7. Habitat in Australia, Moreton Bay. D. Mossman. Mus. Westw.

This species differs from all the rest of the genus in having a double series of oblique discoidal cells, and in the veins being very pale and dotted with black; the antennæ are also extremely slender and filiform; the general colour is luteous buff. The head is very convex on the crown, with a slender black central line; on each of the lower parts of the face, near the clypeus, is a small rather deep impression. The labrum is broadly cordate and flat. The tips of the mandibles and the last joint of the palpi are black. The antennæ are about three times the length of the head,

extremely slender and filiform, 40-jointed; the first and second joints large; the third and following very small, rather longer than wide; terminal joint oval, not larger than the preceding joint. Prothorax about  $2\frac{1}{2}$  times the length of the head; sides brownish chesnut, transversely very rugose, except in the anterior dilated part; remainder of the thorax and abdomen slightly varied with brown; beneath luteous. Fore legs luteous buff; spines of the femora very short and black, except the first large one, which is buff, and placed near the base; tarsi terminated by two minute, distinct, curved, simple unguis, and a moderate sized pulvillus. Four hind legs luteous buff; tarsi terminated by large, simple, very acute curved unguis; pulvillus broad. Wings broad, almost colourless; stigma brunneous; veins pale buff, dotted with black, each wing with eleven oblique, nearly straight, greatly elongated cells dependent on the ordinary radial sectors; nearly every cell divided in the middle by a transverse veinlet, forming a double row of cells.

39. *M. 4-tuberculata*, West. Brunneo-fulva, flavo nigroque varia, antennis brevissimis, 32-articulatis, pronoto carina transversa ante alteraque pone medium alarum, stigmate venisque subcostalibus fulvis, nubilaque apicali fusca. Tab. 18, fig. 1.

Long. corp. lin. 5—9; expans. alar. antic. 11—17.

Habitat Northern India. Mus. W. W. Saunders.

This is a very elegant species, nearly allied to *M. auriventris* of Guérin-Ménéville. The head is bright yellow, nearly flat on the crown, slightly impressed on each side at the base of the antennæ; the clypeus and a transverse line beneath the base of the antennæ black, and a transverse brown bar across the top of the head; labrum nearly circular; palpi fulvous; antennæ scarcely more than one and a half times the length of the head, thick, fulvous, basal joint yellow, moderate sized; second joint small, scarcely larger than the third; remaining joints, especially beyond the middle, very short and transverse. Prothorax dark fulvous, deeply transversely sulcated, forming a more strongly-marked carina before and another behind the middle; anterior part semicircularly dilated in front, yellow, with the anterior margin black, and a brunneous transverse fascia at its hinder part; meso- and metathorax dark fulvous, with the scutella yellow. Abdomen above with the basal half dark fulvous, the remaining half bright yellow; the second and third joints with a broad black hind margin; sides of the abdomen yellow; the three terminal segments blackish; beneath dark fulvous; fore legs dark fulvous; femur yellow on the outside, dark brown on the inside; large spine yellow, placed



nearly in the middle of the thigh; four hind legs fulvous; tibiæ paler, with a dusky broad ring near the base; unguis short, broad, terminated by four or five sharp teeth; pulvillus broad; wings narrow; principal veins fulvous; stigma long, orange brown; fore wings suffused at the base, and all the wings with an apical cloud of fulvous brown; all the wings with from nine to eleven oblique discoidal cells dependent on the ordinary radial sectors, the veinlets dividing the cells slightly curved.

40. *M. tropica*. Westw. Brunneo-picea, flavo-varia, prothorace subelongato, lineis duabus obliquis flavis; scutellis marginæ postico segmentorum abdominalium tenuissime flavis, femoribus anticis intus et extus brunneis, margine tenui pallido, antennis gracilibus, 29-articulatis. Tab. 18, fig. 2.

Long. corp. lin.  $4\frac{1}{2}$ — $5\frac{1}{2}$ ; expans. alar. antic. lin. 9—11.

Habitat Africa tropicali occidentali, Gambia. Mus. Westwood.

Allied to *M. Cora*, Newman. Head bright yellow; clypeus and a broad bar across the place of insertion of the antennæ black; crown of the head with a transverse brunneous fascia; palpi fulvous; antennæ slender, about  $2\frac{1}{4}$  lines longer than the head, 28 or 29-jointed, fulvous, basal joint yellow, moderate sized, 2nd small, 3rd slightly longer than the fourth, which, with the following, is short and transverse; prothorax pitchy brown, rather long and slender, dilated in front, the fore margin not wider than the hind part of the eyes, with two tubercles separating the dilated from the cylindrical part, which is but moderately transversely rugose; the tubercles are yellow, and from each of them extends backwards a slender oblique yellow line; meso- and meta-thorax pitchy brown, with the scutella yellow; abdomen pitchy brown, the anterior segments slenderly margined with yellow, the hinder segments yellow above, sides pitchy brown; fore legs dark chesnut, upper and lower edge of the femur paler; tibiæ with a dark longitudinal line on each side; tarsi terminated by a very minute single claw; four hind legs fulvous-buff, femora and base of the tibiæ dusky; unguis moderately long, curved, armed with several teeth at the tips; wings nearly colourless, principal veins brown, stigma long dark red, tips of the wing with a minute brown cloud, disc with eleven oblique cells dependent on the ordinary radial sectors, the veinlets separating the cells being considerably curved, fore wings also slightly stained with brown at the base.

41. *M. areolaris*. Westw. Fusca, flavo-varia, facie nigra, flavo-marginata; prothorace elongato angustato, parum transversè

rugoso, mesonoti angulis anticis scutelloque flavis; antennis gracilibus, 34-articulatis; alis hyalinis, cellulis obliquis discoidalibus ordinariis 15 vel 16. Tab. 18, fig. 3.

Long. corp. lin. 10; expans. alar. antic. lin. 23.

Habitat in Brasilia. Mus. Hope.

This is one of the largest species in the genus, and is distinguished by the great number of the narrow discoidal cells of the wings. The face is black; the labrum and a narrow line on each side yellow, reaching from the clypeus to the back of the head, uniting with a transverse yellow line on the crown, which is considerably depressed behind the antennæ, a slender carina extending along the hind part of the crown, which is of a dark brown colour. The mandibles are black, with the tips dark chesnut, the palpi fulvous. Antennæ black, two basal joints yellow beneath, terminal joints orange, slender, about twice the length of the head, 34-jointed, the basal joint strong, the 2nd small, nearly rounded, 3rd longer than the 2nd, 3rd and following very short, transverse, terminal joint conical. Prothorax rather elongated and slender, opaque, very slightly transversely rugose in its cylindrical part, moderately dilated in front, with the two ordinary tubercles very small. A semi-circular slender yellow line extends across the dilated anterior part from one anterior angle to the other; the under side is yellow, and there extends a yellow branch from the side obliquely upwards and forwards, and gradually becoming lost in the dark ground colour; the extremity of the upper side is black, preceded by a yellow lunule. Meso- and meta-nota black above, the anterior angles of the former, and a small dot on each side of both, together with the scutella, yellow; beneath and at the sides yellow, with slender black lines. Abdomen brown above, segments broadly black at the margin, beneath orange, with a slender marginal black line to each segment. Fore legs with the coxæ outwardly dusky, the upper and lower edges paler; within yellowish, with a dark line forming a transverse ring about one-third from the base; femora externally dark fulvous, with an angulated dusky line extending from near the base to the apex, internally dark chesnut, varied with orange colour; tibiæ black, with a slender yellow line on the upper edge; tarsi with the basal joint elongate-conic, hairy beneath; four terminal joints very slender, terminated by a very minute single unguis; four hind legs long, slender, fulvous; femora with the extremity and tibiæ with the base dusky; unguis short, broad, terminated by six acute teeth; pulvillus broad, each side dilated into a pseudo-pulvillus. Wings long, nearly hyaline and colourless, principal veins elongated;

stigmata and base of the fore wing brownish yellow coloured, each wing with fifteen or sixteen elongated, discoidal, oblique ordinary cells, the veinlets separating them being but slightly curved.

42. *M. Javanica*. Westw. Nigra, flavo-varia, faciei maculis tribus, labro, fasciaque transversa occipitali flavis; prothorace flavo, lineis duabus latis dorsalibus nigris; pedibus anticis flavis, femoribus extus et intus striga abbreviata basali nigra, alis hyalinis, stigmatate sanguineo.

Long. corp. lin. 8; expans. alar. antic. lin. 16.

Habitat in insula Java. In Mus. East India House.

Head black, with a transverse yellow fascia between the eyes on the crown; antennæ black, slender, two basal joints slightly marked with red beneath; face with three spots of yellow beneath the base of the antennæ; labrum and palpi yellow, mandibles black. Prothorax long, slender, slightly transversely rugose, yellow, with two black lines down the back, leaving only a slender yellow dorsal longitudinal line. Meso-thorax pale brown, the anterior-lateral angles prominent and black; both scutella yellow. Abdomen pale greyish brown, with darker marks on the sides. Fore legs yellow, coxæ externally marked with a broadish black bar; femora yellow outside, with a slender black mark extending from near the base to the middle, interrupted in the middle; inside having a wider dark mark extending from the base to the middle, where it is forked; tibiæ with the terminal half black, tarsi paler; femoral spines darker, brownish red. Four hind legs yellow, tibiæ dark at the base above, extremity of the ungues and pulvilli black. Wings colourless, veins black, except the subcostal and radial, which are fulvous; stigma dark blood red; disc with ten longitudinal oblique cells dependent on the ordinary radial sectors.

43. *M. lineolata*. Westw. Flava, nigro-variegata, facie flava, macula angulata subtus alteraque majori ad antennarum basin, labro nigro, maculaque parva triangulari verticali; prothorace fere lævi elongato, strigis tribus longitudinalibus nigris; antennis gracilibus, nigris, alarum stigmatate nigro. Tab. 18, fig. 4.

Long. corp. lin. 6; expans. alar. antic. lin. 13.

Habitat in Nepalia (D. Hardwicke.) In Mus. Britann.

Head yellow, with a small black diamond-shaped patch on the face beneath the antennæ; labrum with a smaller black patch, a larger one between and behind the base of the antennæ, and a smaller triangular one on the back of the crown of the head; palpi yellow; antennæ with 27 joints, slender, black, the basal joint moderate sized, the 2nd small, the remainder still smaller, the two

basal joints yellow beneath. Prothorax yellow, slender, elongated, almost smooth, with scarcely any transverse wrinkles, the fore margin and three longitudinal lines black, the middle one extending from the front margin nearly to the hind one, dilated in front and behind; the two side ones not extending to the fore margin. Mesothorax yellow, with a transverse black mark in front, den-  
tated on its hinder edge, but not extending so far back as the scutellum; metathorax yellow. Abdomen yellow, with the base black above, the terminal segments dark at the sides, and with a triangular black patch on the hinder margin of each, on the upper side. Fore legs yellow; coxæ very slender; femora on the outside yellow, on the inside the terminal half is black; spines brown; tibiæ yellow, with the inside black; four hind legs entirely yellow. Wings very slightly stained with yellow, submarginal and radial veins and the elongated stigma black; all the wings with only six oblique discoidal cells dependent on the ordinary radial sectors.

44. *M. Indica* (Westw.) Fulva, facie linea fusca, media longitudinali, verticeque striga transversa brunnea; prothorace flavo, antice lineis duabus lunatis lateralibus, lateribusque posticis fuscis, femoribus anticis intus nigricantibus; alis hyalinis, stigmatе sanguineo. Tab. 18, fig. 5.

Long. corp. lin. 5—6; expans. alar. antic. lin. 12.

Habitat in India orientali, Calcutta, Nepalia. (D. Hardwicke, &c.) In Mus. Britann., Westwood.

Head fulvous yellow; labrum blackish brown, a line of brown between the antennæ, extending nearly to the labrum, dilated behind the base of the antennæ; a red brown bar extends across the crown of the head; antennæ black, yellow at the base. Prothorax elongated and rather slender, yellow, anterior part dilated, with the anterior margin (except in the middle) and a curved line on each side of blackish brown, leaving the middle clear; the two ordinary tubercles rather more prominent than usual; hinder cylindrical part only slightly transversely wrinkled, with a more distinct impression on each side, at about one-third from the hind margin; sides of this part brownish black; remainder of the thorax fulvous yellow, with slender dark lines separating the several portions. Abdomen varied with fulvous yellow and black. Fore legs fulvous on the outside, femora with a small black spot at the tip; on the inside the femora are blackish brown; inferior edge fulvous; spines fulvous. Four hind legs fulvous, with black unguis, terminated by three or four minute teeth. Wings very slightly stained with brown; veins slender and black; postcostal and radial veins yellow, stigma

elongate and blood red; all the wings with seven or eight oblique discoidal cells, arising from the ordinary radial sectors.

45. *M. Mozambica* (Westw.) Luteo-fulva, prothorace magis rufescente, facie macula lunari, fasciaque transversa verticali nigris, pronoto antice linea abbreviata nigra; femoribus antice luteis, intus linea tenui fere circulari notatis; alis parum areolatis, stigmatibus nigro. Tab. 18, fig. 6.

Long. corp. lin.  $4\frac{1}{2}$ ; exp. alar. antic. lin. 8.

Habitat in Mozambica. In Mus. D. Miers.

Luteo-fulvous. Head with a lunate mark between the antennæ, and an abbreviated transverse fascia on the forehead black. Antennæ about two and a half times the length of the head, rather slender, black, basal joints pitchy, beneath luteous, mouth luteous. Prothorax moderately elongated, not or scarcely transversely wrinkled; luteous, having the fore margin and a short longitudinal median line black, behind which are the two ordinary tubercles, fulvous; meso- and metathorax dark in the middle. Abdomen paler luteous, with a brown line down each side, terminated by two short fulvous brown curved hirsute filaments; legs pale luteous; anterior femora with their spines externally concolorous, marked on the inside with a dark brown horse-shoe like mark; the large spine on this side is luteous, the remainder black. Anterior tibiæ outwardly luteous yellow, with the inner edge black; inwardly black, with the upper edge yellow; tarsi yellowish, terminated by a single curved acute minute claw; four posterior femora with a very thin black line beneath; wings hyaline and colourless; veins and stigma black; the postcostal vein pale luteous brown; disc of all the wings with only four oblique veins dependent on the ordinary radial sectors.

46. *Mantispa* (*Trichoscelia*) *Fenella* (Westw.) Fulva; capite, antennis, tibiis posticis dilatatis, fascia pone medium alarum anticarum (in medio interrupta) stigmatibus posticarum nigricantibus; antennis longis, gracilibus, 46-articulatis; alis anticis ovalibus, posticis minoribus. Tab. 18, fig. 7.

Long. corp. lin.  $3\frac{1}{2}$ ; expans. alar. antic. lin. 8.

Habitat in Brasilia, Para. (D. Bates). In Mus. Britann.

This is one of the most remarkable species in the genus, agreeing with *D. Notha*, Er., in the broad form and unequal size of the wings, the dilated hairy hind tibiæ, and in the short simple formed prothorax. These characters, together with the modification in the position of the veins of the wings dependent on their broad oval form, warrant the separation of these two species as a



distinct subgenus, to which the name of *Trichoscelia*,\* in allusion to the hirsute tibiae, may be applied.

Head wide, crown very convex, blackish. Antennæ longer than the head and prothorax, slender, hirsute, 46-jointed; basal joint robust, nearly rounded; second joint short, thick; third longer than the second; fourth and following joints very short, growing rather longer towards the middle, where they are cup-shaped. Maxillary palpi very slender, acute at the tips; labial palpi thick, terminal joint subulated. Prothorax not twice the length of the head, not so wide in front as the hind part of the eyes, not transversely wrinkled, subdepressed, rather widened in front, fulvous, meso- and metathorax much widened, fulvous. Abdomen slender, brown above, dirty fulvous at the sides. Fore legs fulvous; femora with a row of equal sized minute teeth; tarsi with the basal joint produced in a long acute point, terminal joints set on at the side of the preceding, very slender, terminated by two minute simple acute unguis and a small pulvillus. Middle legs fulvous; tibia rather dilated; hind legs with the femora slender, fulvous; tibiae dilated, hirsute and black; tarsi dark fulvous; unguis of all the four hind legs very slender, simple and acute. Fore wings large, wide, ovate, nearly colourless; principal veins, especially towards the base of the wing, fulvous; stigma of all the wings blackish; fore wings with a rather broad, transverse, blackish fascia beyond the middle, interrupted in its centre; veins longitudinal, scarcely oblique, the discoidal cells dependent on the ordinary radial sectors, not more than five in number. The margin of the wing is composed of a series of very minute black globular tubercles, each emitting one or more fine hairs.

NOTE.—Each figure is accompanied by details representing portions of the antennæ and extremities of the legs.

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P.S.—The genus *Hoplophora*, Perty (Delect. an. art. Bras. 126), *Chaetessa*, Burmeister (Handb. d. Ent. ii. 527), MANTOIDA, Newman (Ent. Mag. v. 179), placed by Perty in the *Neuroptera* near *Mantispa*, and by Newman in "Natural Order——?" belongs to the *Mantidæ*, as proved by the dentate inner lobe of the maxillæ and the divided labium. A specimen is in the cabinet of W. W. Saunders, Esq., F.L.S.

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\* Schneider (Monogr. Raphid.) suggests this separation, with the name of *Anisoptera*. There is, however, a genus of *Geometridæ* named *Anisopteryx*, and the termination *ptera* must be restricted to the names of the orders, and not used for genera.